

REMARKS / ARGUMENTS

Claims 1, 3, 4, 5 and 7 to 12 are currently pending.

Claim 3 is amended to specify that

In the Advisory Action, the Examiner

Claim 3 is amended to specify that the ozone nano-bubbles “are surrounded by an inorganic shell consisting predominantly of electrolytic ions of iron, manganese, calcium, sodium, or magnesium, which inhibits the ozone nano-bubbles from dissipating”. The basis for this amendment is provided in the description as originally filed by page 11, paragraph 2, in conjunction with page 10, paragraph 5 and by the references to dissipation on page 7, paragraph 1 and 2 and page 8, paragraph 2.

Claim Rejections under 35 USC §112

The amendment to claim 3 addresses the Examiner’s rejection of claims 4 and 5 for lack of antecedent basis for the microbubbles being “stopped from shrinking” (claim 4) and the microbubbles being “inhibited from diffusing” (claim 5).

Regarding claim 4, in the Advisory Action, it is stated that: “the range of less than 200 nm is broader in scope than the range of about 140 nm (std deviation of about 30 nm)” and that “claim 4 encompasses size distributions other than about 140 nm plus or minus about 30 nm”. It is respectfully submitted that the Examiner has interpreted “standard deviation” as an error, or tolerance, instead of its usual meaning.

Furthermore, it is noted the relevant part of claim 4 as follows:

"the microbubbles are stopped from shrinking in such a manner that a charge density on the surface of each of the microbubbles is increased to evolve electrostatic repulsive forces when the diameter of the microbubbles is decreased to less than 200 nm in the step of instantaneously shrinking the microbubbles"

(emphasis added)

It is submitted that claim 4 actually refers to a specific stage of the shrinking of the microbubbles, that is, a point at which "the diameter of the microbubbles is decreased to less than 200 nm". As such, claim 4 does not specify a range of sizes of microbubbles and so is not inconsistent with the range specified in claim 3.

Withdrawal of the rejections and allowance of the claims are respectfully requested.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136 (a) requesting an extension of two months, and any further months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

I hereby certify that this document is being transmitted to the Patent and Trademark Office via electronic filing.

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September 9, 2011  
(Date of Transmission)

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Cait Yocum  
(Name of Person Transmitting)

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/ Cait Yocum/  
(Signature)

Very truly yours,



Mavis S. Gallenson  
Attorney for Applicants  
Reg. No. 32,464  
LADAS & PARRY  
5670 Wilshire Blvd., Suite 2100  
Los Angeles, CA 90036  
(323) 934-2300 voice